REMARKS

Claims 4, 6, 7, 9-11, 16-26, 33, 37 and 38 presently appear in this case. Claims 16-26 and 37 have been withdrawn from consideration. Claims 6 and 7 have been indicated to be allowable if rewritten into independent form. The remaining claims have been rejected. The Office Action of March 2, 2005, has now been carefully studied. Reconsideration and allowance are hereby respectfully urged.

Briefly the present invention relates to chimeric glycosylated soluble interleukin-6 receptor (sIL-6R)-interleukin-6 (IL-6) polypeptides constructed from the fusion of the naturally occurring sequences of sIL-6RδVal and IL-6, with a linker of 3-4 amino acids therebetween or the 13 amino acid linker of SEQ ID NO: 1 therebetween, which linkers do not prevent the chimeric polypeptide from triggering dimerization of gp130 in human cells. The invention also relates to DNA encoding same, vectors made from said DNA, and methods of making such polypeptides. The present invention is also related to pharmaceutical compositions containing such polypeptides and methods of use for the treatment of cancer and liver disorders, enhancement of bone marrow transplantation, and treatment of other IL-6 related conditions.

The interview among Examiners Kolker and Andres and the undersigned attorney on July 26, 2005, is hereby gratefully acknowledged. In this interview, applicants' attorney indicated that applicants were willing to accept the allowability of claims 6 and 7, but that somewhat broader language for the peptide language of claim 6 was requested. Claim 6 specified a tripeptide linker which is Glu-Phe-Met. The prior art reference has a much longer flexible linker (a 13 residue sequence rich in glycine and serine. It was pointed out that Example 3 establishes that a very short 3 amino acid linker is as active as a 13 amino acid linker. Page 7, lines 19-21, of the present specification supports the use of very short non-immunogenic linkers of 3-4 amino acids in length. Accordingly, it was proposed to amend claim 6 to specify the nature of the very short linker in such language, rather than limiting to the specific tripeptide exemplified. The examiners agreed to consider such an amendment when submitted. Claim 7 will effectively be accepted.

To effectuate the proposals made at the interview, claim 6 has been amended to specify that the linker has 3-4 amino acids and claim 38 has been amended to be generic only to the sequences of claims 6 and 7. Accordingly, it is now believed that all of the claims are now in condition for allowance. If the product claims are allowable, then the

examiner should examine the withdrawn process claims depending therefrom, as well as the DNA and vector claims.

The examiner has stated that the election/restriction requirements have been made final and that the only recourse now is a petition. However, in the rejection of March 2, 2005, the examiner stated that should any product claim currently being examined be found allowable, applicant has the right to have process claims examined that depend from the allowed subject matter. As the allowability of the present product claims is established herein, examination and allowance of all of the withdrawn process claims that depend therefrom is respectfully urged. Additionally, as the DNA claims correspond exactly to the allowed polypeptide claims, these claims as well should be rejoined and examined in this case. Such is respectfully requested.

The examiner states that the Information Disclosure Statement (IDS) of December 4, 2001, has not been considered as no PTO-1449 or copy of reference was attached thereto. The reference that was listed on the PTO-1449 that accompanied this IDS as filed was one of the references that had already been submitted with the IDS of April 20, 2000. Accordingly, the IDS of December 4, 2001, may be disregarded as being duplicative. As to the IDS of April 20, 2000, the examiner

states that the listing for the Mackiewicz and the Kollet publications are deficient as failing to mention the name of the journal. Attached hereto is a PTO-Form-08B listing the correct citation for these references, which have already been considered by the examiner. It is requested that the corrected citation be used for the purpose of publication on the front page of any patent that may issue from this application.

As to WO9732891, the examiner states on the returned PTO-1449 that only the abstract was considered. It is urged, however, that although only the abstract was translated, such fulfills all requirements for submission of a foreign language document. See MPEP 609IIIA(3), which states that the submission of an English language abstract of a reference may fulfill the requirement for a concise explanation. As a concise explanation of relevance was submitted, the entire foreign language reference must be considered, as the entire reference was cited, not just the abstract thereof. Attached hereto is a copy of EP0888384 (B1), which is the corresponding European patent with English language claims, to facilitate the examiner's consideration of the full text of WO9732891.

Claim 43 has been objected to as being a substantial duplicate of claim 42. Claims 42 and 43 have now been deleted, thus obviating this objection.

Claim 3 has been rejected for failing to comply with 35 USC 112, second paragraph. Claim 3 has now been deleted, thus obviating this rejection.

Claim 44 has been rejected for failing to comply with 35 USC 112, first and second paragraphs, for a number of reasons, and for lacking novelty under 35 USC 102(a). Claim 44 has now been deleted, thus obviating these rejections.

Claims 2-5, 9-11, 33 and 38-44 have been rejected under 35 USC 112, first paragraph, for lack of enablement. The examiner states that while the specification is enabling for two chimeric sIL-6R/IL-6 fusion proteins that vary only in the linker region, it does not reasonably provide enablement for chimeric fusion proteins where the linker is not a short polypeptide. It is noted that claims 6 and 7 have not been made subject to this rejection.

Claim 6 has now been amended to specify that the linker is a short polypeptide of only 3-4 amino acids. The examiner states that the specification only does not provide enablement when the linker is other than a short polypeptide. Accordingly, claim 6 as presently amended is supported by an enabling disclosure for the same reason that previously appearing claim 6 was. It would not take undue experimentation to change the residues of the very short linker that is being claimed. Claim 38 has been amended so as

to have a scope that includes only the polypeptides of claims 6 and 7. As amended claim 6 has been shown to be free of this rejection above and as claim 7 was never subject to it, claim 38 should now be free of this rejection. Accordingly, it is believed that this rejection is now moot. Reconsideration and withdrawal thereof is therefore respectfully urged.

Claims 2-5, 9-11, 33 and 38 have been rejected under 35 USC 112, first paragraph, for lack of written description.

As indicated above, claim 6 has been amended to read on only the naturally occurring sequences for sIL-6R and IL-6 and to specify that the linker has 3-4 amino acids, as is supported by the written description on page 7, lines 19-21. The scope of claim 7 has not been changed and this claim was not subject to the present rejection. Claim 38 is only broad enough to encompass the polypeptides of claims 6 and 7. Accordingly, this rejection is now moot. Reconsideration and withdrawal thereof is therefore respectfully urged.

Claims 2, 3, 9-11, 33, 38-41 and 44 have been rejected under 35 USC 103 as being obvious over Fischer in view of Lust. This rejection is respectfully traversed.

As discussed above, claim 6 has now been amended to change from the specified tripeptide to include any linker of 3-4 amino acids that is non-immunogenic and does not prevent the activity of the polypeptide. Claim 7 was not subject to

this rejection. Claim 38 has been amended to cover only the polypeptides of claims 6 and 7. The sequences of sIL-6R and IL-6 must be the natural sequences. The examiner says that claim 3 was included in this rejection only because it depended from the same interpretation of claim 38. In view of the amended form of claim 38, it is not believed that the use of any tri- or quadra-peptide linker would be subject to this rejection. It should be noted that Fischer requires a flexible linker on the order of 40 Å. His only example is a 13 residue sequence rich in glycine and serine. The finding that only a tripeptide linker works as well as a 13 residue linker, as shown in Example 3 of the present specification, is surprising and would not have been suggested by any combination of Fischer and Lust. Accordingly, reconsideration and withdrawal of this rejection in light of the amendment to the claims is respectfully urged.

It is submitted that all of the claims presently appearing in this case fully comply with 35 USC 112 and fully define over the references of record. Reconsideration and allowance is therefore earnestly solicited.

Respectfully submitted,

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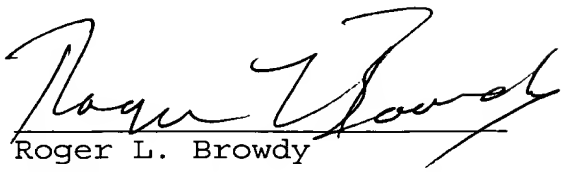
By 
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